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ABSTRACT

This book describes an effort by Jobs for the Future (JFF) to help communities keep their school-to-career reform efforts on track through a process of goal setting and measurement that sets realistic and achievable reforms while still building toward fundamental educational change. The process is called "benchmarking," and those involved must: (1) provide a concrete definition of what success looks like; (2) guide the selection of priority tasks and next steps in the reform process; (3) recognize and reward progress in implementing teaching practice and institutional designs that lay the groundwork for improved student outcomes, rather than fault teachers and schools for not achieving instant success; and (4) establish clear roles and responsibilities for school, district, business, and community partners, and mutual accountability for results. The book is organized in four parts. Part 1 describes one school district's use of performance measurement to guide and strengthen implementation of school-to-career education reform. Part 2 shows how benchmarking applies to each of the key players in the school-to-career enterprise in a way that uses measurement to build effective partnerships. Part 3 contrasts the measurement strategy of two JFF communities to illustrate how to use benchmarking to guide and drive the change process and how to tailor a benchmarking process to the local context and level of program development. Part 4 concludes with a discussion of benchmarking and what it can reasonably be expected to accomplish. (KC)

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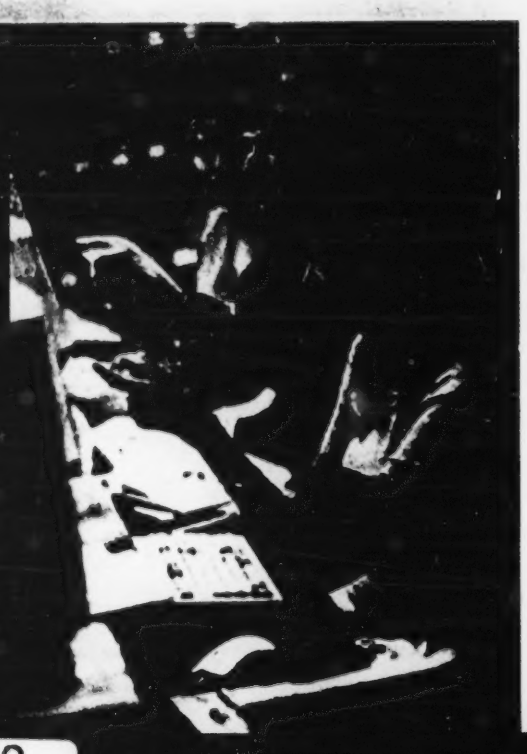
Benchmarks for Success in High School Education

Putting Data to Work in School-to-Career Education Reform

by Susan Goldberger, Robert Keough, and Cheryl Almeida



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Acknowledgments

This volume captures the lessons learned by Jobs for the Future through its collaboration with five communities that sought to create a new community-connected learning system using a goal-setting and measurement process we call benchmarking. The authors want to acknowledge the educators, employers, community leaders, parents, and students of Boston, Jefferson County, Milwaukee, North Clackamas, and Philadelphia who dedicated themselves to this ambitious mission and whose hard work produced so many important results. The authors extend special thanks to the members of the Boston school-to-career measurement team whose names do not appear in the volume but whose thinking and efforts in the field are central to the material: Sandra Copman, Jean LaTerz, Kevin Marshall, and Jennifer Power. In addition, the authors would like to thank Adria Steinberg for her thoughtful editing suggestions and helpful guidance throughout the process.

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Benchmarks for Success in High School Education

Putting Data to Work in School-to-Career Education Reform

by Susan Goldberger, Robert Keough, and Cheryl Almeida

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Jobs for the Future (JFF) is a LAB partner organization. JFF is a national, non-profit organization that works to strengthen the foundation for economic opportunity and civic health in America by advancing the understanding of the skills and knowledge required for success in the new economy. JFF works locally and nationally to develop innovative workforce development solutions that help people make effective lifelong transitions between work and learning.

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Introduction

Since 1994, Jobs for the Future (JFF) has worked with school districts and their community partners to redesign high school learning using school-to-career education as a framework for reform. In doing so JFF has felt firsthand the tug of two gravitational forces that can derail the best-intentioned efforts at systemic reform. Pulling in one direction is the desire to define success in a way that's achievable, even if that means watering down goals until they barely constitute change. Pulling in the other is a definition of fundamental reform that makes any meaningful change seem too distant and too discouraging to reach for. Either way, the status quo wins.

This book represents the results of JFF's best efforts to find a path between these powerful forces that threaten all complex, systemic restructuring efforts. It describes our attempts to help communities keep their reform efforts on track through a process of goal setting and measurement that sets realistic and achievable reforms while still building toward fundamental educational change.

Still in its infancy as a reform strategy, school-to-career is particularly vulnerable to the twin forces of dilution and paralysis. At its best, school-to-career promises whole-school reform of a fundamental kind. School-to-career

promotes high academic standards by engaging all students in a rigorous college-preparatory curriculum that stresses the application of concepts and knowledge to real-world problems. The real-life context breaks down barriers between academic disciplines and encourages thematic instruction and practical problem-solving. Through field-based projects and internships, students come in contact with supportive adults who become intellectual and personal mentors and who introduce them to the habits, expectations, and standards of the adult world. Engagement with the world outside school adds authenticity to academic endeavors and enlists the resources of employers and community agencies in the task of educating youngsters.

Institutionally, too, school-to-career is a dramatic departure from schooling as usual. Schools are generally insular institutions, but their disengagement from the wider society can be overcome by forming educational partnerships with businesses and other outside agents. Likewise, business and community partners who have been passive benefactors—supplementing classroom supplies, providing guest speakers, giving workplace tours—can become active agents who take their full share of responsibility for educating youngsters to succeed in the real world.

An ambitious vision does not ensure success, however. Like any complex educational program, it is easier to implement school-to-career feebly and incompletely than to do it well. At every step along the way, the undertow of inertia and institutional caution pulls toward a more modest version of school-to-career: a career-development class tacked onto a standard vocational education or an agenda of career exposure and work visitation that leaves the core academic experience unchallenged and unchanged. At the same time, maintaining the purity of the school-to-career vision can be just as dangerous if the result is immobility. Unlike most education-reform plans, school-to-career requires simultaneous action at many levels—the schoolhouse, the central office, and a host of worksites. Implementing root-and-branch reform is an intimidating prospect.

It was in trying to navigate this narrow and hazardous course—keeping school-to-career both educationally ambitious and institutionally achievable—that Jobs for the Future launched its Benchmark Communities Initiative (BCI) in 1994. Five communities—Boston, Massachusetts; Philadelphia, Pennsylvania; Milwaukee, Wisconsin; Jefferson County, Kentucky; and North Clackamas, Oregon—joined the initiative, the purpose of which was to deepen the practice of school-to-career as a strategy for systemic reform. The term "benchmark" signified an essential element of the JFF strategy: "benchmarking" means using performance standards—measurable indicators of progress toward clearly defined goals—to keep large-scale reform on track. In 1998, the initiative was expanded to several new sites and was renamed the Connected Learning Communities (CLC) Initiative.

Designing a measurement system that could drive a complex change process was not an easy task. To both steer and strengthen the implementation of systemic reform, a benchmarking, or performance measurement, process would have to

- provide a concrete definition of what success looks like;
- guide the selection of priority tasks and next steps in the reform process;
- recognize and reward progress in implementing teaching practice and institutional designs that lay the groundwork for improved student outcomes, rather than fault teachers and schools for not achieving instant success; and
- establish clear roles and responsibilities for school, district, business, and community partners, and mutual accountability for results.

In any method of performance measurement, student achievement is the central issue, but it is also the thorniest issue. An exclusive focus on student performance exposes fledgling reform efforts to premature judgment and certain disappointment. At the same time, neglecting student achievement altogether leaves reformers unaccountable for the efficacy of their program.

Monitoring and promoting progress in school-to-career reform, then, requires a broader, more sensitive approach to measuring changes in student achievement. These measures must

- gear expectations of improvement to the stage of implementation;
- recognize the range of student competencies cultivated by school-to-career education, not just those that are easiest to measure; and
- give as much weight to long-term success—graduation, postsecondary enrollment, career placement—as to short-term indicators of student achievement.

This book explains JFF's benchmarking approach to managing change. Part I describes one school district's use of performance measurement to guide and strengthen implementation of school-to-career education reform. Part II shows how benchmarking applies to each of the key players in the school-to-career enterprise—schools and their business, community, and postsecondary allies—in a way that uses measurement to build effective partnerships. It presents a measurement framework for communities to use to track progress in implementing the key features of community-connected learning.[1] The framework delineates the major responsibilities of each stakeholder (for example, schools and business partners), and presents a series of measurable performance outcomes for each of these responsibilities. Part III contrasts the measurement strategy of two JFF communities to illustrate how to use benchmarking to guide and drive the change process. It shows how to tailor a benchmarking process to the local context and level of program development. By tying performance measures to the process and expected results of each stage of program implementation, benchmarking offers the hope of pursuing an ambitious vision by means of concrete, realizable steps for which all participants are held accountable.

[1] The terms "school-to-career" and community-connected learning" are used interchangeably in this publication. JFF prefers to use "community-connected learning" because it more vividly conveys the central role of a rich network of adult mentors in the learning process. Other constituencies prefer the term "school-to-career" because of its more established use in the field.

Part I.

Measurement and mutual responsibility: Evolution of a benchmarking process

For Jobs for the Future, the Boston public schools have served as the main laboratory for developing the benchmarking process.[2] In Boston, school-to-career has evolved from a pilot program operating at the fringes of the school system to a focus of whole-school change for a majority of the district's 22 comprehensive, pilot, and alternative high schools. In the course of that evolution, Boston reformers have made increasing—and increasingly sophisticated—use of performance measurement to clarify implementation goals and manage the change process. At each new stage of school-to-career development, new benchmarks—performance indicators—have been set in an effort to deepen the meaning of school-to-career reform as well as hold participants accountable for their efforts.

The Boston story, which is still very much in progress, is more descriptive of benchmarking in action than it is prescriptive. It is one city's effort to use measurement as a guide to action. In Boston, the benchmarking process, as it has evolved, has proven useful in a variety of ways:

- helping to clarify and broaden the goals of school-to-career reform;
- defining clear stages of implementation with goals, guideposts, and the performance indicators that correspond to the priorities of that stage and current capacities of participants to effect change;
- establishing clear roles and responsibilities for all school and community partners in a collaborative process that holds them collectively accountable for student outcomes;

[2] In the corporate world, the term "benchmarking" is sometimes used to mean identifying best practice in a particular activity or function and analyzing a firm's performance against that standard. Here, benchmarking is simply meant as a way of defining improvement goals and measuring progress against those goals in concrete terms.

- creating an environment which protects and nurtures innovation by holding off premature judgment, even as it maintains improving student outcomes as the ultimate measure of success; and
- broadening the range of measures used to judge student outcomes.

Prologue: The origins of school-to-career in Boston

In Boston, school-to-career grew out of the Boston Compact, a 16-year-old school–business partnership. Organized by the Boston Private Industry Council (PIC), the original compact promised summer and after-school jobs for students in exchange for a serious commitment by the city to improve the schools. Even at this early stage, the compact represented a mutual commitment between the schools and their business partners that was backed up by measurable goals, such as the number of summer jobs provided by employers and demonstrable improvement in indices such as student test scores, attendance, and graduation rates. This form of mutual accountability had its limits: because school indicators were system-wide, no one in individual schools felt bound by them. Nonetheless, the promise of some concrete evidence that each partner was living up to its end of the bargain helped to build a sense of mutuality between these new institutional allies.

The compact was based upon a conventional division of responsibilities: schools were responsible for teaching kids better, while businesses provided the incentive of jobs for students who were better prepared than in the past. In recent years, the school-business collaboration has moved toward closer relations and educational roles that are more intertwined.

In 1991, the PIC, in collaboration with several Boston-area teaching hospitals, helped organize ProTech, an intensive, multi-year youth apprenticeship program. Yet even as business took a more active role in education, educators tended to view the partnership as an externally driven add-on, offering opportunities for students outside school but having little to do with what happens inside the classroom.

With Boston's selection as a Benchmark Community in the summer of 1994, efforts to focus school-to-career on changing classroom practices intensified. That fall, in partnership with the PIC and JFF, the district selected four high schools as "school-to-career" schools. The choice was based on a school's commitment to using school-to-career as an educational change strategy, although the terms of that commitment remained vague.

Education reformers inside and outside the school system took action to clarify the terms of the school-to-career partnership, turning to performance measurement as a means of enforcing mutual responsibility. A School-to-Career Steering Committee, made up of leading figures in the school department, the business community, and other stakeholders, was formed to institutionalize the broad collaboration represented by school-to-career. This leadership group provided external support for school-to-career education, protecting fledgling programs from premature judgment, and recruiting their colleagues into the ranks of school partners.

They would not provide this assistance on faith. Key members of the steering committee, including Boston Federal Reserve Bank president Cathy Minehan and Boston School Committee member Bill Spring, a founder of the compact, pushed for concrete proof of action by the schools. A Collaborative Evaluation Group was formed, its members representing PIC, the school department's school-to-career and research and development offices, school-to-career coordinators in the selected schools, and JFF, which provided technical assistance. This group took responsibility for developing a means of holding each of the partners—including the schools—accountable for the change they were collectively committed to make happen.

Stage 1: Defining expectations for partners

During the 1995-96 school year, the Collaborative Evaluation Group developed a clear, consistent definition of school-to-career education and what it meant for schools to be part of it. This definition required school-to-

career schools to begin dividing into small learning units, called career pathways, which would fulfill specific requirements for integrating academic and worksite learning (see box). This definition provided an organizational framework. It also made clear that simply grafting career-based activities onto an existing course of academic study was not enough.

Schools interested in being school-to-career schools had to agree to implement the career pathway requirements. In the second round of application, six more high schools were designated as school-to-career for the 1996-1997 school year, based on demonstrated commitment and capacity to reorganize into pathway programs.

Boston Public Schools Career Pathways

As defined by the Boston Public Schools, a career pathway:

- clusters students in several courses, including two academic subjects per year, for two, three, or four years, with the curriculum organized around a career theme;
- uses an applied, project-based approach to teaching, using the industry or career theme as the context for instruction;
- provides a progressive sequence of worksite experiences that is integrated with academic learning;
- offers career and personal development that includes general career exploration and skills development, as well as specialized study related to the career theme; and
- makes connections to postsecondary options.

With career pathways established as the model for school-to-career education in Boston, the process focused on monitoring and guiding progress organizing those pathways. In the schools, school-to-career coordinators gathered data on each nascent pathway, detailing the number of students involved, the number of worksite placements, the number of academic and career-related courses, and other items that indicated extent of implementation. The school district modified its data system to follow students in pathway programs, so that their performance could be compared to the student body as a whole on indices such as grades, attendance, and dropout rate.

As expectations for school performance became more specific and concrete, so, too, did demands on business partners. Boston's school-to-career planners were careful to define clear and high expectations for business partners so that educators would see the business community as full partners with accountability for results. Career pathways, as defined in Boston, required "a multi-year sequence of worksite experiences integrated with academic learning," implying a high level of investment on the part of participating employers. Not all business partners would make that commitment all at once, nor could the schools, at this early stage, make full use of them if they did. But new goals and standards for business participation clearly were in order.

These standards included categorizing each business partnership according to the extent of employer effort, measured by hours of worksite learning offered to students. In this three-tier system, Level 1 represented a modest, short-term employer commitment, offering such activities as job-shadowing, career exploration, and summer or after-school jobs. In Level 2, employers provided substantial work-based learning experiences with structured learning plans. Level 3 employers expanded the work-based learning experiences into a progressive, multi-year sequence that was fully integrated with classroom teaching in at least two core academic subjects. This scheme allowed for varying degrees of involvement while also establishing Level 3 as the "gold standard" for school-to-career partnerships.

Stage 2: Defining critical components of quality

The schools and their partners were doing something they had never done before, and the measurement approach in the first stage of school-to-career development reflected that fact. Organizational restructuring would likely take place in advance of substantive changes in the classroom and worksite placements. Initially, the measurement process focused on documenting those changes.

Still, Boston school reformers did not want form to pass for substance. With evidence being gathered about basic levels of school-to-career activity, the district and its partners began to try to measure the *quality* of students' learning experiences. Having defined career pathways, Boston set about specifying the elements that indicate quality in career-pathway study. Attention shifted from asking how many career pathways are in place, serving how many students, to asking how well the pathways provide a true school-to-career education.

As the emphasis shifted from organizational redesign to instruction, the focus of measurement shifted to tracking changes in teaching practice. On the school side of the career pathway, teachers were offered professional development in contextual and applied learning. School-to-career leaders then began gathering school-based data and conducting teacher and student surveys to determine the progress of career pathways toward integrating such methods. On the work side, student surveys and other measures were reworked to capture the quality of work-based activity. Student surveys provided information about the quality of their experiences in the classroom and workplace alike. (The school-to-career link to postsecondary education has yet to be subjected to the scrutiny and guidance of the measurement process.)

With measures in place to assess both the quality and quantity of school-to-career programming, reform advocates turned to testing the efficacy of the new and evolving instructional system in improving student outcomes. The school district changed its student-data system to make it possible to compare the performance of pathway and non-pathway students based on grades,

standardized test scores, and other traditional measures. To these were added new, non-traditional indicators, such as employer evaluations of students. Assessment rubrics have also been developed that are geared to both the school district's new learning standards and a set of school-to-career competencies that guide learning plans for worksite experiences (see box). All these both measure and promote the rigor of work-based learning.

Boston's School-to-Career Competencies

Individual skills

1. **Communication and literacy**
   a. Speaking
   b. Listening
   c. Reading
   d. Writing

2. **Organizing and analyzing information**
   a. Collecting and organizing information
   b. Research and analysis
   c. Quantitative analysis and mathematics

3. **Problem solving**
   a. Identifying problems
   b. Solving problems

4. **Using technology**
   a. Using work tools and office equipment
   b. Computer operation

5. **Completing entire activities**
   a. Initiating and completing projects
   b. Time management

Team skills

6. **Acting professionally**
   a. Attendance and appearance
   b. Accepting directions and criticism
   c. Flexibility and maintaining self-control
   d. Respecting confidentiality

7. Interacting with others

a. Interacting with customers and clients
b. Interacting with co-workers
c. Managing stress and conflict
d. Respecting diversity

8. Understanding all aspects of the industry

a. Understanding the structure and dynamics of the entire operation
b. Recognizing health and safety issues
c. Understanding personnel policy and the labor–management relationship

Personal and professional development

9. Taking responsibility for career and life choices

a. Teaching and learning on an ongoing basis
b. Balancing personal, professional, and academic responsibilities
c. Setting career goals

The first year of data-gathering yielded several important findings, which were reported to the School-to-Work Steering Committee in October 1997 and March 1998. The data indicated that students in career pathways had lower dropout rates, higher attendance rates, better grades, and higher promotion rates than their non-pathway peers. However, there were no significant differences in standardized test scores.[3]

Information on postsecondary attendance and employment complemented in-school performance data. A 1998 PIC survey of graduates compared post-

[3] Boston Public Schools, Office of Planning, Assessment and Research. October 1997. "School-To-Career Report, SY1996-1997," Boston, MA: Author.

graduation outcomes of former ProTech students—products of the district's most intensive school-to-career program—to a group of non-ProTech Boston Public School (BPS) graduates who met ProTech criteria for grades and attendance. Besides reporting some good news for school-to-career education, these surveys put the measurement spotlight on the most important student outcome: *success in life after high school.* A higher percentage of ProTech graduates were attending a postsecondary program the fall after graduation than the control group (78 percent vs. 72 percent). This difference was significant for African-American ProTech graduates, who had a much higher rate of enrollment in postsecondary education than their counterparts in the control group (79 percent vs. 53 percent). College retention and completion rates were also significantly higher for African-American ProTech graduates. Seventy-three percent of African-American ProTech students who graduated high school in the years 1993, 1994, and 1995, were still enrolled in college or had completed a degree when surveyed in the winter of 1997, compared to 65 percent of their peers. College completion and retention rates were also higher for white ProTech graduates compared to their peers, but similar for Latino and Asian graduates. Students also appear to benefit from participation in work-based learning programs in the form of higher wages. Among graduates who were no longer attending college and thus fully invested in finding a good job, ProTech participants earned significantly more per hour than comparison group students several months after graduation ($9.86/hour compared to $8.57/hour).

Employers have also opened up their workplaces to periodic review by the partnership of the quality of the learning taking place under their auspices. A 1998 survey of worksite supervisors focused on what takes place in work-based learning experiences and how well those experiences measure up to the goals of academic integration, and the teaching of school-to-career competencies. The survey found that the vast majority of work-based placements provided students opportunities to learn important skills. More than 80 percent of the placements required students to use several important SCANS skills. Still, developing high-quality work placements remains a

challenge. The same survey found that only 25 percent of student placements could be classified as high-end; that is, placements which required students to make independent judgments and use more complex communication skills on a regular basis.

Findings like these show both substantial progress on the path toward school-to-career reform and a considerable distance remaining—just what one might expect at this early stage. The findings also point the way to the next level of measurement, one that puts the tools of research and analysis in the hands of educational change-agents at every level of the school-to-career system.

Stage 3: Researching for action

Stage 2 pioneered the use of measurement to improve both the quality and quantity of school-to-career education in the Boston Public Schools. In the next stage, which is now underway, data are being put to work inside the schools, and even in classrooms.

School-to-career coordinators—full-time staff members who are responsible for organizing and managing the change process in individual school buildings—are learning how to access and analyze student data by pathway and present findings in a form useful to teachers, employers, and other community partners. In this way, the measurement tools developed citywide can inform the school-improvement process school-by-school.

To make data more accessible to schools and teachers, the school district's Office of Information Services is setting up a customized "intranet" system that will allow schools to retrieve information quickly about school and work performance of students by school-to-career program. This database will also contain information on the postsecondary education and employment outcomes of students.

Beginning with the class of 1998, the partners began making use of both the school district's student data, flagged for pathway participation, and yearly

information collected on postgraduate activity by the Northeastern University Center for Labor Market Studies to assess the long-term effects of all school-to-career pathways on student success after secondary school. Each year Northeastern researchers, in collaboration with the PIC, collect data on the education and employment outcomes for all BPS graduates nine months after graduation. The school district is merging this data on postsecondary outcomes with existing information of the high school performance of students. This merged data will allow comparison between pathway students and non-pathway students, as well as among different pathways.

Stage 4: Refining model and measurement framework

As school-to-career grew from a collection of promising career pathway programs to a focus for the district's whole school efforts, there became a need to expand and refine the measurement framework.

The launch of an ambitious, district-wide high school reform effort in 1998 enabled school-to-career to evolve into an engine for redesigning high schools into small, personalized learning communities with broad career themes as the context for academic learning. The district's plan required all high schools to fundamentally redesign their instructional and organizational practices over the next three years. High schools were expected to reorganize into smaller, more personalized learning units, and use more inquiry-based, applied teaching approaches. Most school teams turned to school-to-career models to guide their redesign efforts—not because they were required to do so, but because these models offered a concrete way to put the restructuring principles adopted by the district—such as small, personalized learning communities and inquiry-based instruction—into practice.

As schools began to experiment with school-to-career design principles, it became clear that there were a variety of ways to put these principles into action. Some high schools chose to cluster their ninth- and tenth-grade students into small learning communities of 100 to 150 by grade level, and organize their upper grades into career pathway small learning communities.

Others chose to start their career pathways in grades 9 or 10. Still other schools opted to organize small learning communities by grade level, providing career-related instruction through career majors consisting of a sequence of advanced technical and academic courses in a broad career area. The tables below illustrate the different approaches taken by Boston schools.

School Designs for Implementing Community-Connected Learning

Brighton High School

Grades 10-12	Business and technology pathway	Law, government, and public service	Health professions	Media, arts, and communications
Grade 9	Grade 9 clusters			

Charlestown High School

Upper School Grades 11 & 12	Communication technology	Finance and economics	Hospitality	Law and Justice
Lower School Grades 9 & 10	Ungraded 2-year Small Learning Communities (Teachers loop)			
	Unit A	Unit B	Unit C	Unit D

Jeremiah E. Burke High School

Upper School Grades 11 & 12	CAREER MAJORS **Information technology** / **Arts and communications** / **Math, science, and engineering** / **Business entrepreneurship**			
	Small learning community Grade 12			Bilingual LEP-small learning community 5
	Small learning community Grade 11			
Lower School Grades 9 & 10	Small learning community 1 Grade 9 & 10	Small learning community 2 Grade 9 & 10		Step 1 & Step 2 LEP Students

As new forms of high school organization evolved, Boston needed to revise its conception of the school-to-career model to better reflect the range of design choices. It redefined the school-to-career learning model as consisting of four key features:

- small learning communities and personalized support;
- college preparatory curriculum that featured real-world applications;
- learning in the workplace and community; and
- supported transition to postsecondary education and employment.

High schools that select school-to-career as their focus are expected to implement all four features on a school-wide basis. They are, however, free to select their own organizational design for combining these features. Most schools still use career pathways as a way to provide students with both small, personalized learning communities and a rigorous curriculum that emphasizes applied instruction. Other schools group students by grade level as the way to provide more personalized, interdisciplinary learning, and then offer students a range of career majors that apply what they are learning in academic subjects to issues beyond the classroom.

Boston also needed to revise its measurement framework in light of an increasingly flexible conception of school-to-career. The new measurement framework does not prescribe a particular organizational form, but instead focuses on documenting the extent to which schools are exposing students to all four features of the school-to-career model, whatever the design. It then measures the impact of these four features on student achievement in high school and beyond.

As high schools in Boston move toward implementing school-to-career as a wall-to-wall design, it is becoming less feasible to measure the impact of school-to-career by comparing the outcomes of participants to non-participants. As more and more students participate in one or more of the

design features (for example, work-based learning placement or a small learning community) the pool of non-participants is disappearing. The district has been redesigning its measurement approach in light of the progress that schools are making in whole school reform. Instead of only comparing students in school-to-career to non-participants, the district, in collaboration with its partners, is also comparing the performance of students who participate in the most developed and comprehensive programs to students who are exposed to only one or two of the features. The district is also in the process of designing ways to look at school-wide measures of progress for those schools that are now involving all their students in the school-to-career approach.

Conclusion

Measurement has played a pivotal role in the change process in Boston, providing documentation and guidance for the ongoing development of its school-to-career educational program. But the Boston story also shows that it is critically important to measure different things at different times. The form and content of measurement has changed with each level of program development. Deciding what to measure, and when, is key to the benchmarking process, transforming it from a technical task into a high-leverage strategy for change.

Part II.

Benchmarking school-to-career as a strategy for whole-school reform

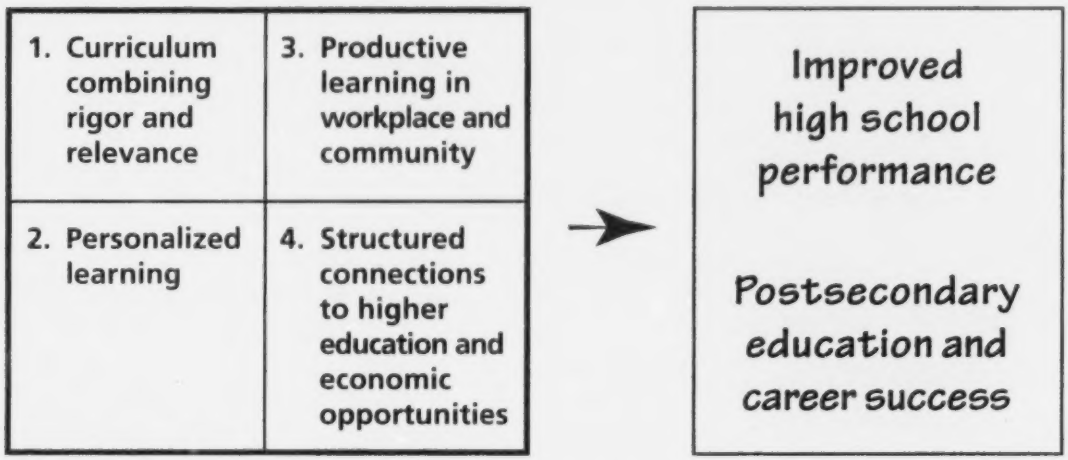
From the efforts of Boston and other communities in the Connected Learning Communities initiative (CLC), Jobs for the Future is developing a framework that any community could use to benchmark progress in implementing school-to-career on a whole-school basis. Although still very much a work in progress, this framework can help communities begin to define goals and use performance measurement to advance reforms.

Section 1: Concrete model of success guides process

The starting point for developing a measurement framework is a clear, concrete definition of what success would look like. In Boston, for example, performance measurement became possible—and productive—with the definition of school-to-career education in terms of career pathway structures and teaching practices. Over several years, JFF has been able to refine this conception of "what success looks like" by drawing upon the approach developed in Boston and variations offered by other Benchmark Communities Initiative (BCI) communities. The figure below presents the essential features of this school-to-career or "community-connected" learning model.

Selected CLC Design Principles

Four essential design principles lead to improved student outcomes.


1. Curriculum combining rigor and relevance
3. Productive learning in workplace and community
2. Personalized learning
4. Structured connections to higher education and economic opportunities
Improved high school performance
Postsecondary education and career success

The four design principles that are expected to improve student learning and expand economic opportunity are:

1. Curriculum that combines rigor and relevance

- All courses of study are upgraded to meet college-preparatory standards.
- Students learn through active, in-depth investigation and exploration.
- Schools use multiple contexts for teaching academic subject matter, by providing opportunities for students to address authentic problems, using the kinds of materials and approaches employed by experts.
- Career courses promote development of higher-order thinking by incorporating academic content and emphasize conceptual understandings.
- Curriculum helps students develop skills and habits—such as planning and design, time management, or using technology as a problem-solving tool—that cut across traditional disciplinary boundaries.

2. **Personalized learning:**
   - School reorganizes into small learning communities in which teams of teachers share responsibility for a group of students, and meet regularly to coordinate instruction and discuss student performance.
   - Students receive extra help and support through mentoring, tutoring, and advisory programs.

3. **Productive learning in the workplace and community**
   - Curriculum includes learning experiences in the community or workplace that reinforce and extend classroom instruction.
   - All students get to know and apprentice with at least one adult outside of school through joint project work, community service learning, or worksite learning.

4. **Structured connections to higher education and high-skilled employment**
   - Students take college courses while still in high school to prepare for postsecondary study.
   - Students receive college and career planning services, and transition services to promote successful entry into postsecondary education and employment.
   - Work-based learning placements and career-related courses provide students with advanced workplace skills, exposure to a broad range of career options, and connections to potential employers.

Creating this new, community-connected learning system requires action at many levels—not just in the schoolhouse, but also at the central office and on the part of a range of partners and stakeholders in the community. To guide this collective enterprise, an effective measurement system must address not only what is to be built but also who is responsible for building what.

Clearly-defined and agreed-upon responsibilities give each partner a strong sense of purpose and also provide a mechanism to hold them accountable for meeting their obligations to the joint enterprise of community-connected learning. In a benchmarking strategy, all the stakeholders use performance standards—measurable indicators of progress toward clearly defined goals—to guide and strengthen their own contributions to reform. These performance standards, or benchmarks, become the fine print of the school-to-career education contract between the partners.

The remainder of Part II describes this measurement approach. Section Two outlines the responsibilities of each stakeholder (e.g., schools, business partners) for implementing the four key features of the school-to-career or community-connected learning model. It then presents a series of benchmarks or measurable performance outcomes for each of the responsibilities listed for that stakeholder. The list of responsibilities and benchmarks organized by stakeholder group provides a measurement framework that communities can use to track their progress in building an effective community-connected learning system. Section Three presents the measurement of student outcomes, those cross-cutting indices of success for which school-to-career partners share responsibility.

Section 2: Responsibilities and benchmarks by stakeholder

The table below summarizes the responsibilities of each stakeholder for implementing the four key features of the community-connected learning approach: personalized instruction and support through small learning communities, a curriculum that combines rigor and relevance, learning in the workplace and community, and supported transitions to postsecondary education and career-track employment.

Stakeholder Responsibilities for Implementing Community-Connected Learning

What are schools responsible for?	What are business and community partners responsible for?	What are post-secondary partners responsible for?	What are districts responsible for?	What is the partnership responsible for?
Providing all students with a college-preparatory curriculum that combines rigor and relevance	Providing intellectually rigorous community- and work-based learning connected to classroom instruction	Giving students access to college courses; offering credit or advanced placement for qualified work	Promoting key features of community-connected learning as part of its high school reform strategy	Creating a governance body comprised of leaders of each stakeholder group
Personalizing the learning through small learning communities, mentoring, and other relationship-building features	Providing and supporting field investigations connected to academic study	Revising admissions policies to consider performance-based assessments of classroom and work-based learning	Collaborating with business and community leaders to convene a school-community partnership	Ensuring essential intermediary functions are carried out
Expanding opportunities to learn by extending the classroom to the workplace and the community	Improving student access to company and union pre-apprenticeship training	Assisting in the design of applied, contextual curriculum	Redesigning accountability systems to encourage and reward progress in implementing community-connected learning	Integrating community-connected learning with youth development and workforce programs
Developing and sustaining a collaborative professional community	Assisting in the design of an integrated, applied curriculum	Ensuring equity in college success by providing academic support and mentoring when needed	Aligning graduation requirements and promotion policies with community-connected learning	Brokering a system of clearly-marked pathways to postsecondary education and careers
Providing students access to college courses, and college and career planning	Ensuring equity in participation and success in placements and field investigations		Building schools' capacity to implement connected learning	Ensuring equity in partnership-supported community-connected learning activities
Ensuring equity in community-connected learning experiences			Ensuring equity in community-connected learning in bilingual, special, and alternative education	

Benchmarking the schools

The community-connected learning model is based on the following assumptions:

- Students learn through relationships with peers, teachers, and a community of adults who use knowledge in realms beyond school.
- Students learn when they are engaged, and engagement is most likely when students see a personal and social value to what they are learning.
- Students learn through active, in-depth investigation and exploration.
- Students learn in multiple contexts, through opportunities to address and reflect on authentic problems, using the kinds of materials and approaches employed by experts.
- Students become life-long active learners through developing habits of mind and work that lead to intelligent behaviors, such as searching for connections, persistence, and striving for accuracy.

Implementing the key features of a community-connected learning approach requires fundamental redesign of the high school learning experience. Specifically, *high schools* are responsible for

- providing a college-preparatory curriculum to all students that combines intellectual rigor and relevance;
- personalizing the learning through small learning communities, mentoring, and other relationship-building features;
- expanding student opportunities to learn by extending the classroom to the workplace and community;
- developing and sustaining a collaborative professional community that promotes continuous improvements in teaching practice;
- promoting successful postsecondary transitions by providing students access to college-level courses, and college and career planning services;
- ensuring equity in participation and success in school-to-career learning experiences.

The figure below provides benchmarks, or measurable performance outcomes, for each of these school responsibilities.

Measurable Benchmarks for Assessing the Fulfillment of Schools' Responsibilities

What are schools responsible for?

1. ***Providing an intellectually rigorous and relevant learning experience for all students.***

Benchmarks

- All students complete a curriculum aligned with state and district standards that stresses applying knowledge to real-world problems.
- All courses of study meet college preparatory standards.
- Foundation skills (reading, writing, and research skills) and applied learning skills (for example, using technology as a problem-solving tool) are taught across the curriculum.
- Teachers make regular use of inquiry- and project-based instruction to make learning relevant and promote critical thinking and problem-solving skills.
- Academic and career-related courses promote mastery of SCANS-type competencies (for example, organizing and analyzing information, problem solving, and using technology).
- Students prepare portfolios and exhibitions of their work which provide evidence of learning and include a major project which meets academic and real-world standards.

2. ***Personalizing learning through small learning communities, mentoring, and other relationship-building features.***

Benchmarks

- Learning takes place in small learning communities where teams of teachers are responsible for common groups of students who take several classes together.

- Small learning communities have a unique identity, clear curricular focus, and clearly-defined criteria for successful completion.
- Adults in the school act as long-term advisors and mentors for a small group of students.
- Students work with and get to know at least one adult outside of school through projects, work- and community-based learning, or both.
- Students receive guidance and support to develop and achieve personal plans for future learning and work.
- A flexible schedule creates opportunities for longer, more integrated instruction, learning in work and community settings, and common teacher planning time.

3. Expanding students' opportunities to learn by extending the classroom to the workplace and the community.

Benchmarks

- Projects and other learning activities require students to apply knowledge to real problems, use multiple investigative methods, and create products of value beyond the classroom.
- Assessments ask students to demonstrate what they know and can do by applying knowledge to real-world settings.
- Teachers use multiple strategies to connect classroom and community and work-based learning, such as having their students research an issue related to their worksite or field placement or designing a class project that requires students to investigate a contemporary community concern.
- Designated staff communicates with workplace and field placement to discuss student progress.
- Teachers collaborate with business and community part ers to develop curricula that integrate learning inside and outside the classroom.
- Parents and other community members are provided numerous opportunities to participate; including, for example, sitting on advisory groups, and regularly viewing exhibitions and performances of student work.

4. ***Developing and sustaining a collaborative professional community.***

Benchmarks

- Professional development is school-based, created collaboratively, and designed to address the instructional goals and priorities identified by the school or small learning community.
- Teachers regularly share instructional practices, assessment strategies, and curriculum in a structured way to improve teaching and learning.
- Teacher teams meet regularly to assess student work, design curriculum, plan projects, and improve practice.
- Teachers participate in making decisions that affect teaching and learning.

5. ***Promoting successful postsecondary transitions.***

Benchmarks

- Schools, in collaboration with postsecondary partners, provide high school students with easy access to college-level courses to help them prepare for postsecondary study.
- Students receive college and career planning services.

6. ***Ensuring equity in participation and success in school-to-career learning experiences.***

Benchmarks

- Students participating in key features of the school-to-career learning experience (e.g., work-based learning placements, postsecondary activities) represent by race, gender, and language group their enrollment in the school.
- Services and supports are provided to ensure that all students are meeting new standards (for example, tutoring, differentiated instruction).

Benchmarking business and community partners

Students gain a new appreciation for academic knowledge and its practical application by working hand-in-hand with adults who apply their knowledge and experience to the daily challenges of production, patient care, customer service, and institutional mission. Concepts that are mystifying in the abstract become tangible and concrete in practice.

That educational alchemy takes place, however, only when business and community placements go beyond the superficiality of workplace exposure and become an integral part of pedagogy. High-quality work-based and community-based learning experiences can take either of two forms:

- **Work-based placements:** substantive placements, paid or unpaid, in business and community settings that engage students in meaningful work, are connected to academic study, and may involve or lead to part-time or permanent jobs. This category can include school-based enterprises.

- **Field-based investigations:** extended projects that involve field work and substantive contact with adults in business and community institutions who have expertise in the area of study.

In a work-based placement, the workplace becomes a site of learning, and the productive activity of the manufacturer, hospital, or community agency becomes the vehicle for exploring academic and applied knowledge. In a field investigation, the business, profession, or institution provides subject matter, real-world standards of performance, and professional guidance in the pursuit of solutions to authentic problems. For instance, in one of JFF's communities, a local health center asked chemistry students from the neighboring high school to investigate lead poisoning among young children. The students learned techniques of lead testing and analysis, then analyzed paint samples brought to school by elementary-school students. The health center used the results to identify neighborhoods with high lead-paint levels, enabling it to target prevention and health-education efforts better.

In both work-based placements and field investigations, the contribution of business and community partners goes well beyond the job shadow, the guest speaker, or the after-school job in the mailroom. The success of these work- and community-based learning experiences requires a degree of integration with school curricula and learning standards that sets it apart from programs like traditional co-ops.

Features of High-Quality Work-Based Learning

- Experiences are structured around learning goals that are agreed to by students, teachers, and partners and are aligned with school-based and district standards.
- Students carry out projects grounded in real-world problems that take effort and persistence over time, resulting in the creation of something that matters to them and has an external audience.
- Students receive ongoing coaching and expert advice on projects and other work tasks from employers and community partners. By learning to use strategies and tools that mirror those used by experts in the field, students develop a sense of what is involved in accomplished adult performance and begin to internalize a set of real-world standards.
- Students develop a greater awareness of career opportunities in the field and deepen their understanding of the educational requirements of those careers.
- Students develop their ability to use disciplinary methods of inquiry—for example, to think like a scientist—and enhance their capacity to tackle complex questions and carry out independent investigations.
- Students can demonstrate their achievements through multiple assessments, including self-assessment, exhibitions, and specific performance assessments (for example, an oral proficiency exam).

While schools must play a role in defining work- and community-based learning, business and community partners have distinct responsibilities as well. These roles include

- providing intellectually rigorous community- and work-based learning placements that are connected to classroom instruction;
- providing and supporting field investigations that connect to academic study;
- improving student access to company and union pre-apprenticeship training;
- assisting in the design of an integrated, applied curriculum;
- ensuring equity in participation and success in placements and field investigations.

The performance of *employer and community partners* can be defined and tracked by benchmarks in the same manner as that of the schools. The box below offers measurable benchmarks for the responsibilities of business and community partners above.

Measurable Benchmarks for Assessing the Fulfillment of Employers and Community Partners' Responsibilities

What are employers and community partners responsible for?

1. ***Providing intellectually rigorous community- and work-based learning placements connected to classroom instruction.***

Benchmarks

- Work- and community-based learning placements are connected to at least one academic discipline and have learning goals tied to state and district learning standards.
- Students in placements have documented opportunities to acquire and use high performance skills (e.g., use technology to organize and analyze information).
- Work- and community-based supervisors use strategies designed to connect work-based and classroom learning (for example, assist in a work-based investigation related to a classroom assignment).
- Supervisors and other adults at the workplace serve as mentors to students providing coaching, advice, and support.
- All students participate in at least one career-related learning experience which demonstrates features of high-quality, work-based learning during their enrollment in the small learning community.

2. ***Supporting field investigations and student projects connected to classroom instruction.***

Benchmarks

- Field investigations address an important worksite or community issue, are linked to at least one academic subject area, and are organized around written learning goals.
- Throughout the investigation, mentors coach students on specific investigative strategies and provide content expertise.

- Students produce products or presentations which demonstrate that they have used multiple methods of inquiry.

3. Improving student access to company and union pre-apprenticeship training

Benchmarks

- Unions and corporate partners offer students pre-apprenticeship training designed as a stepping stone to entry in the unions' apprenticeship programs.
- Students participate in and successfully complete pre-apprenticeship programs.

4. Assisting in the design of integrated, applied curriculum

Benchmarks

- Business and community partners collaborate with teachers to develop curriculum that incorporates real-world problems and examples.
- Teachers participate in "externships" which enable them to gain first-hand experience of how disciplinary knowledge is applied in the workplace.

5. Ensuring equity in participation and success in placements and field investigations.

Benchmarks

- Students have equal access to adults in the workplace and community who serve as coaches, mentors, and supervisors.
- Students taking part in work-based placements, field investigations, and pre-apprenticeship programs represent by race, gender, and language their enrollment in the sending schools.
- Community partners provide direct social services or referrals to students and families.
- A written policy and formal procedure ensure that students not meeting expectations receive appropriate services.

Benchmarking postsecondary partners

Local institutions of higher education are vital partners in school-to-career education in much the same way that business and community institutions are. They can be particularly rich sources for field-based investigations, for example. That said, community colleges, four-year colleges, and institutes of advanced technical training have an additional role to play: linking students to postsecondary study.

A central goal of school-to-career education is preparing all students for the advanced education and training they will need to succeed in a highly technical, information-age economy. This preparation is not only academic. Particularly for students who would traditionally be considered "non-college bound," the path to higher education must be smoother, more direct, and more integrally linked to their secondary school studies than it is now.

To become full partners in school-to-career education, institutions of higher education have particular responsibility for making the transition to post-secondary study more seamless—and more successful. The responsibilities of *postsecondary partners* include:

- helping to break down the wall between secondary and postsecondary study by giving high school students access to college courses and offering credit or advanced placement for qualified high school work;
- revising admissions policies to give full consideration to performance-based assessments of classroom and work-based learning;
- assisting in the design of applied, contextual curriculum;
- ensuring equity in college success by providing tutoring, mentoring, and other follow-up supports for those that need it.

Like the schools and businesses and community partners, institutions of higher education should be guided by measurable benchmarks for their

responsibilities under the school-to-career partnership. The box below provides benchmarks for each of these responsibilities.

Measurable Benchmarks for Assessing Postsecondary Partners Fulfillment of Responsibilities

What are postsecondary partners responsible for?

1. ***Providing access to college courses.***

Benchmarks

- High school students are enrolled in college academic and technical courses.
- High school students receive college credit or advanced standing for high school courses that meet the colleges' standards.

2. ***Revising admissions policies.***

Benchmarks

- Postsecondary partners accept performance-based assessments of classroom and work-based learning as grounds for admission and advanced standing.

3. ***Assisting in design of contextual, applied curriculum.***

Benchmarks

- Postsecondary faculty collaborate with teachers to develop applied curricula, teaching strategies for implementing curricula, and tools for assessing student work.

4. ***Ensuring equity in college success by providing tutoring, mentoring, and other follow-up supports for those who need it.***

Benchmarks

- Postsecondary partners provide support services such as tutoring and mentoring.
- Students gaining access to college courses, credit, or advanced standing represent by race, gender, and language their enrollment in the sending schools.
- A written policy and formal procedure ensuring that students not meeting expectations receive appropriate services.

Benchmarking system-level supports: School district and partnership responsibilities

New policies and practices at the school-district and partnership levels are crucial to the development of school-to-career education. Creating an institutional environment that supports and nurtures school-to-career education is a task that deserves to be tracked as closely as changes in pedagogy made by schools and numbers of worksite placements provided by employers.

What that institutional environment must look like is not set in stone, but JFF has learned much from the experience of its partner communities as they have struggled to rebuild educational systems around community-connected learning principles. A number of school district and partnership supports have proved crucial to the success of these efforts.

One of the most important lessons to emerge from JFF's work is that the elevation of high school reform to center stage in a district, coupled with a concrete set of reform principles that reinforce the organizational and teaching practices of community-connected learning, is instrumental in moving the agenda beyond a small number of schools. Backing up this new framework for reform must be resources and clear incentives for schools to

experiment with new forms of organization and teaching practices. Specifically, JFF has identified the following *school district* actions or responsibilities as critical to success:

- promoting key features of community-connected learning as part of its high school reform strategy;
- collaborating with business and community leaders to establish and convene a school-to-career partnership;
- redesigning the accountability system so that it rewards progress by schools in implementing the key features of the community-connected learning model, and measures student achievement in multiple ways including post-high school outcomes;
- aligning graduation requirements and promotional policies with community-connected learning;
- building schools' capacity to implement new organizational and teaching practices;
- ensuring equity in participation and success in community connected learning in bilingual, special education, and alternative education programs.

These school-district responsibilities are as measurable as other elements of the school-to-career partnership; and measuring them is just as important to school-to-career's success. The box below presents benchmarks or performance measures for each of these *school district* responsibilities.

Benchmarks for Assessing Districts' Fulfillment of Responsibilities

What are districts responsible for?

1. ***Promoting key features of community-connected learning as part of its high school reform strategy.***

Benchmarks

- District's plan for school-based reform includes key features of community-connected learning in its statement of principles and practices.
- High-level district staff have responsibility for overseeing the high school reform effort and have a clear strategy for advancing implementation of community connected learning.
- District modifies identified policies and procedures to enhance schools' capacity to implement community-connected learning.
- A stable and flexible funding stream is created by the district, organizing all sources of funding to support a unified school reform plan.

2. ***Collaborating with business and community leaders to establish and convene a school–community partnership.***

Benchmarks

- Superintendent of school takes a leading role in convening key business and community leaders to participate in a school–community partnership.
- School, business, and community representatives meet regularly to develop guidelines and formats for the school–community partnership.
- High-level district staff, including superintendent, participate in any governance or oversight group forged for the school–community partnership.

3. Redesigning the accountability system to encourage and reward progress in implementing community-connected learning.

Benchmarks

- District's accountability system recognizes and rewards schools' efforts to implement key features of community-connected learning, such as creating small learning communities, and collaborating with business and community partners.
- District collects and uses multiple data to assess student achievement, including post-high school education and employment outcomes.
- District uses assessment data diagnostically to help teachers and schools improve curriculum, instruction, and learning outcomes.
- District encourages and supports school-based self-evaluation programs, such as school quality reviews.
- The district accountability system is reviewed on a systematic basis by a team, including appropriate representatives of community-connected learning partners.

4. Aligning graduation requirements and promotion policies with community-connected learning.

Benchmarks

- Promotional policies do not rely solely on test scores but also recognize other forms of assessment, such as portfolios and exhibitions, as valid indicators of student learning.
- Graduation requirements use performance-based and portfolio assessments to determine students' proficiencies in academic and career competencies.
- Students can meet some promotion and graduation requirements by creating products which address career, community, or other contemporary issues.
- Graduation requirements encourage students to take a wide range of academic and career electives.
- Graduation requirements meet standards for postsecondary study.

5. *Building schools' capacity to implement community-connected learning*

Benchmarks

- District office is organized to emphasize technical assistance and support for community-connected school reform.
- Adequate resources are committed to support sustained school-based professional development focused on the teaching and learning priorities identified by the school.
- Sharing of community-connected learning, best practices, and change strategies across schools is promoted by the district.
- District coordinates process by which schools find appropriate matches of professional development support providers and reform networks or organizations.

6. *Ensuring equity in participation and success in community connected learning in bilingual, special education, and alternative education programs.*

Benchmarks

- Students participating in bilingual, special education, and alternative education programs have equal access to community-connected learning experiences.
- Students participating in key features of community-connected learning (e.g., field-based investigations, postsecondary activities) represent by race, gender, and language group their enrollment in the district.
- A written policy and formal procedure ensuring that underrepresented students get access to community-connected learning activities.

Just as school districts must take certain actions for community-connected learning to take root, community partners must create an institutional and political context to nurture this new system of educating young people.

Jobs for the Future has identified the following *partnership responsibilities* as critical for success:

- Creating a governance body comprised of the high-level leaders representing each of the key stakeholders or partners;
- Ensuring that the intermediary functions essential to connecting students to learning opportunities and adults beyond the schoolhouse, e.g., managing worksite placements, are carried out;
- Integrating community-connected learning with youth development and workforce policies and programs; and
- Brokering a system of clearly-marked pathways to postsecondary education and careers.

Benchmarks for Assessing Partnership's Fulfillment of Responsibilities

What is the partnership responsible for?

1. ***Creating a governance body comprised of high-level leaders and representing each of the key partners.***

Benchmarks

- A leadership body comprised of high-level leaders (for example, the superintendent of schools, chief executive officers of local corporations, college administrators, and directors of community-based agencies) meets regularly.
- The leadership group oversees the participation of business, higher education, and community partners in community-connected school reform.

- The group creates a vision for community-connected learning and develops strategies for advancing its implementation across the community.
- The group sets policy to guide the work of partnership members.
- The group builds and sustains public support and commitment to community-connected education reform.
- The group sets measurable goals and uses an array of data to assess progress and build mutual accountability.

2. ***Ensuring that the intermediary functions essential to the success of the partnership—such as managing worksite and community placements—are carried out.***

Benchmarks

- An organization, or staff within one or more organizations, carries out essential connecting functions between schools, worksites, and community placements.
- The intermediary staff recruit new business, school, community, and postsecondary partners and guide them to more extensive and intensive involvement.
- The intermediary staff manage and coordinate work- and community-based placements, and train and support worksite mentors.
- The quality of work- and community-based placements is monitored by intermediary staff against clear criteria for quality placements endorsed by the leadership group.

3. ***Integrating community-connected learning with youth development and workforce policies and programs.***

Benchmarks

- A "map" of community-connected learning, youth development, and workforce programs identifies commonalities and opportunities for stronger linkages.
- Program funding is linked whenever possible to provide maximum services to youth and to create a unified approach to education and workforce reform.

4. ***Brokering a system of clearly-marked pathways to postsecondary education and careers.***

Benchmarks

- Career-oriented education and training programs target fields and industries with expanding high-wage career opportunities.
- Formal agreements between postsecondary programs and high schools (for example, credit-granting arrangements, performance-based admissions) expand student access to advanced technical and professional certification and degrees.
- Formal agreements (e.g., articulation agreements) between technical and community colleges and four-year institutions provide a seamless progression of technical and professional education for students seeking additional skills and training.
- Successful graduates of community-connected learning programs are given hiring preferences for entry-level positions with opportunities for advancement.
- Community-based career counseling and placement services are readily accessible to young people.

5. ***Ensuring equity in participation and success in partnership-supported community-connected learning activities.***

Benchmarks

- Partnership reviews documentation to ensure that students participating in community-connected learning activities (e.g., work-based learning, mentorship programs) represent by race, gender, and language group their enrollment in the district.
- Outcome data are used to make sure students representing various groups have equitable success rates.
- A written policy and formal procedure are in place to address concerns about equitable participation and success among groups.

Benchmarking student outcomes

The acid test of school-to-career, or any other education reform, is student success. Success—in school and in adult life—is the responsibility of the school-to-career system as a whole, not of one partner or another. If the system is working, improvement should be evident in all indicators of student achievement. Educational improvement should be seen in attainment of academic standards; in attainment of SCANS skills;[4] in the degree of student engagement in school; in rates of completion of postsecondary programs of study; in attainment of high-skilled, career-track employment; and in increased equity of educational and career outcomes among students of different races, genders, ethnic groups, economic classes, and disabilities.

Some of these performance indicators are easier to measure than others. Longitudinal data, such as postsecondary success, are difficult to collect, and it may take years before meaningful results emerge. But in an education-reform process as far-reaching as school-to-career, the most readily available indicators, such as test scores, may not be the best ones, nor the most telling. The following student outcome measures reflect the range of performance indicators needed to tell the full educational-change story:

[4]U.S. Department of Labor. 1991. *What Work Requires of Schools: A SCANS Report for America 2000.* Washington, D.C.: Secretary's Commission on Achieving Necessary Skills. This landmark report, by a blue-ribbon group representing business, labor, education, and government, specifies a set of skills and competencies that modern workplaces demand from all workers. The SCANS report has become a widely-accepted benchmark for employer expectations of its entry-level workforce.

Measuring the Impact of School-to-Career on Student Academic and Career Success: Student Outcome Measures

I. Acquisition of skills and dispositions required for postsecondary and career success by students participating in school-to-career

A. Achievement of academic standards.

- Number or percentage of students earning credits for promotion to next grade level.
- Number or percentage of students meeting high school graduation requirements.
- Number or percentage of students demonstrating academic proficiency on state, district, and school assessments.
- Number or percentage of students achieving satisfactory grades (e.g., C or better) in core academic courses.
- Number or percentage of students who meet academic requirements for entry into the state's university or four-year college systems.
- Number or percentage of students who do not require remedial course work at postsecondary level (i.e., students who pass course placement tests).

B. Attainment of SCANS skills.

- Number or percentage of students demonstrating basic work-readiness skills.
- Number or percentage of students demonstrating advanced SCANS competencies (e.g., diagnosing a non-routine problem or planning a multi-step task).

C. Increased engagement in school.

- Number or percentage of students with high attendance rates as determined by district standards (by grade level).
- Number or percentage of students who meet standards of behavior (e.g., who have no suspensions).

- Number or percentage of students who enroll in more challenging, high-level courses.

D. Greater equity in achievement and engagement.

- Rate of improvement over time in student achievement and engagement measures by race, native language, gender, socioeconomic status, and disabled status.
- Reduction of differences in student achievement and engagement by race, language group, gender, socio-economic status, and disabled status.

II. Achievement of postsecondary and career success by students participating in school-to-career.

A. Completion of postsecondary programs of study.

- Number or percentage of students enrolled full-time/part-time in a:
  - ~ 4-year university or college
  - ~ 2-year Associate of Arts or Science program
  - ~ union- or firm-sponsored apprenticeship
  - ~ non-degree occupational training program of at least one year
- Number or percentage of students meeting yearly credit requirement to maintain good standing in postsecondary program.
- Number or percentage of students who complete a postsecondary education or training program.
- Number or percentage of students who earn technical and professional certificates and licenses.

B. Attainment of career-track employment.

High school graduates not enrolled in postsecondary education —

- Number or percentage who obtain and maintain full-time employment:
  - ~ related to their school-to-career area of study
  - ~ unrelated to their school-to-career area of study
- Number or percentage who obtain and maintain employment in a primary labor market job within two years of graduation (as measured by wage rate and benefits, skill requirements of position, and opportunities for promotion).

High school graduates enrolled in postsecondary education —

- Number or percentage who work full-time or part-time.
- Number or percentage who work in a job related to their career area of study.
- Number or percentage of students who obtain and maintain high-skilled employment related to their career area of study (as measured by wage and benefit level, and education and skill requirements of positions).

C. Greater equity in postsecondary and career success

- Rate of improvement over time in percentage of students enrolling in and completing postsecondary programs and securing high-skilled employment broken down by race, language group, gender, socio-economic status, and disabled status.
- Reduction of differences in postsecondary and career success by race, language group, gender, socio-economic status, and disabled status.

To assess the connection between students' school-to-career experience and their performance on outcome measures, it is useful to group students by the intensity and type of the school-to-career program. It will dilute the outcome results if, for the purposes of benchmarking, students who go through sophisticated work-based learning experiences are grouped with students who get minimal career exposure. Not only will this bury successes under failures, but it will also allow key information—such as *which* school-to-career practices contribute most to student outcomes—to remain hidden. This is vital information for making decisions about program improvements.

Careful distinctions among types of student experiences also help frame expectations of improvement in outcomes over time. For instance, there is evidence that participation in work-based learning increases a student's connection to school. If a school or district emphasizes work placements in its implementation plan, it may see improvement in student-engagement measures such as attendance, incidence of suspension, and drop-out rates. But if progress on integrating workplace experiences with core academic studies lags behind, it should not be surprising if improvement in academic indicators, such as grades and test scores, is less dramatic.

Part III.

Putting benchmarking into action: What to measure and when

To get the greatest value out of benchmarking as a guide for action, the goal is to measure the right things at the right time, not to collect every bit of data all the time. The benchmarking process applies measurement to a wide range of implementation steps and student outcomes; that is its strength as an education-reform tool. Such wide utility can also make benchmarking seem a daunting, if not overwhelming, project. Performing every measurement described above would tie the most statistic-hungry school district in a knot. For example, it is pointless to gather data on aspects of school-to-career education that are neither in place nor high on the agenda for implementation. Measurement should help define program-development priorities and track their progress. Choosing what to measure and when is key to an effective benchmarking process.

Measurement priorities in a given community will vary with that community's history of education reform and its particular reform strategy. Measurement must correspond to the level of program development in each community, and to that community's choice of next steps. How benchmarking can—and must—be tailored to the local context is illustrated by contrasting the use of measurement in North Clackamas and Boston, two participants in Jobs for the Future's Connected Learning Communities initiative.

Boston and North Clackamas have used benchmarking in very different ways, arising out of the local context and serving locally determined priorities. Yet in each community, the use of performance measures strategically tailored to the reform effort has prodded continuing and sustained organizational and instructional change. And measuring student

outcomes, sensitively and in ways tied to educational changes actually taking place, has served to yield evidence of the most elusive phenomenon in educational reform—success in the making.

North Clackamas, Oregon: In this suburban school district outside Portland, high school teachers and administrators were initially quite skeptical about school-to-career. Many faculty members saw it as narrow, career-oriented education and showed little interest in reorganizing their schools into theme-based small learning communities. At the same time, some teachers were attracted to the use of project-based, real-world-connected instruction to motivate students and promote critical thinking. Over the first three years of the initiative, JFF trained several groups of faculty members—one-third of high school teachers, ultimately—in project-based learning and related strategies. During this time, measurement largely consisted of teacher surveys that determined the extent to which the new instructional techniques were being put to use in the classroom.

The role of measurement began to change with the introduction of new state content standards for academic disciplines, with corresponding assessment tests. Teachers who had adopted the project-based approach were convinced that it was the best way to teach deep problem solving and critical thinking, but they were worried that district and school demands to address the myriad standards would create pressure to return to more traditional, material-covering methods. These educators needed hard evidence that in-depth exploration of real-world problems was effective in ways that might not show up on standards-based tests. Measurement shifted to "action research"—determining the effect of the new methods on student achievement.

Heartening results came from the most advanced experiment in educational restructuring at Rex Putnam High School: a pilot cluster of blended ninth- and tenth-grade students, called GATES. Research conducted by the teachers showed that the interdisciplinary, project-based curriculum not only improved student performance across several measures of achievement, it also

proved an effective approach to fulfilling state standards because each in-depth project touched on multiple content standards. Circulation of this research boosted support—within the school and in the district office—for expanding the use of interdisciplinary, project-based instructional approaches.

Bolstered by evidence of improved student outcomes, what began as the attempt of a few teachers to develop project-based, community-connected learning has evolved into a district-wide reform effort linking what students learn in school with the real world. All of the district's high schools are reorganizing the last two years around career majors, with broad career areas providing a rich context for academic learning. Teams of teachers, administrators, business representatives, parents, and students are designing focused programs of study that will be implemented in all of the district's high schools in the fall of 2000.

As implementation moves beyond isolated classrooms to school-wide change, the benchmarking process has shifted its focus to help define and measure progress in implementing these new designs for high school learning, and the impact of these changes on students.

Boston, Massachusetts: The Boston school-to-career initiative has developed very differently, as has the way Boston uses measurement to build school-to-career. As described in Part I, there was greater acceptance of school-to-career as an education-reform strategy in Boston from the beginning, but much of the early effort went into developing work-based learning experiences. With the focus concentrated on the worksite, school-based structures and classroom practices to support integrated, contextual learning lagged.

As attention shifted to the schools, implementation efforts centered on career pathways—small learning communities designed to cluster students in academic and technical courses for two to four years, with the curriculum organized around a career theme. Implementation measures charted progress in creating structures to integrate classroom and work-based learning

experiences and in developing project-based, contextual instruction in pathway classes.

In addition, Boston began to gauge student performance in different components of the school-to-work initiative, depending on level of development. ProTech, the most developed work-based learning program, was subjected to the toughest measures of short-term and long-term student performance. This produced encouraging results. ProTech graduates attended college and obtained better-paid employment at higher rates than non-ProTech graduates. In newer pathway programs, student achievement measures were used as well but for broad diagnostic purposes, with no expectation of dramatic improvement in the early stages of implementation.

As the school-to-career movement matured in Boston, Boston revised its conception of school-to-career to better reflect the range of design choices that schools were making. It also revised its measurement framework in light of an increasingly dynamic and flexible conception of school-to-career as a school-wide design for change. The current measurement system focuses on documenting the extent to which schools are exposing students to the four key features of the model (see page 27), whatever the design, and the impact of this exposure on student achievement.

Part IV:

Conclusion

This book has detailed Jobs for the Future's approach to managing the complex reform of schools—based on school-to-career educational principles—by means of a goal-setting and measurement process we call benchmarking. Benchmarking represents our approach to helping communities chart a course that keeps school reform both educationally rigorous and institutionally realistic. By tying performance measures to the process and expected results of program implementation at each stage along the way, benchmarking offers the hope of pursuing an ambitious vision by means of concrete, realizable steps for which all participants are held accountable.

This measurement process proceeds from a clear definition of the end goal—in this case, school-to-career, or community-connected learning. The educational visions that are most far-reaching are also most subject to being watered down or simply left on idealistic pedestals, as long as they remain vague and abstract. In pursuit of reform that fundamentally revises the high school learning experience, JFF and its communities have worked to translate lofty goals into a set of concrete practices that schools and their community partners are responsible for instituting. In this way, performance measures can be based on a clear, measurable definition of what success looks like.

The measurement process also bolsters implementation by providing clarity and injecting accountability into the partnership that lies at the heart of school-to-career education. Performance measures can be aligned to the responsibilities of each partner—school, business, community, postsecondary institution. By detailing roles and responsibilities, the measurement process not only guides and tracks progress, it becomes a mechanism for mutual accountability in a truly shared educational enterprise.

In maintaining accountability, benchmarking differs from other accountability methods by focusing participants on the *process* of reform, not just the results. By gearing performance measurement to specific action steps associated with each particular stage of implementation, the efforts of all partners are focused on priority tasks. Expectations of progress—in implementation and in student performance—derive from those tasks, rather than from more global (and possibly unrealistic) standards. This measurement process recognizes that improvement is not instantaneous, nor does it take place uniformly. Rather, progress takes time and proceeds in discrete steps, each characterized by unique challenges and educational rewards. Benchmarking recognizes those steps and encourages appropriate rewards for achieving them.

What benchmarking is *not* is a predetermined blueprint. It neither demands nor offers any one starting point or prescribed sequence of implementation steps. Even where the goal is school-to-career education, each community's reform process is unique, arising out of a specific history and set of educational needs. The measurement process follows the contours of the community's chosen implementation strategy. Benchmarking allows each school district, with its community partners, to chart its own course, using measurement to aid navigation—and ensure mutual accountability.

More than anything else, the benchmarking approach to performance measurement helps schools and their allies take control of the reform process—and their educational destiny. The accountability inherent in this process of goal-setting and measurement provides a lever to use against the resistance of the status quo. The breadth and sensitivity of the performance measures, customized to the tasks at hand, can keep progress within reach, overcoming the discouragement and paralysis that put improvement hopelessly beyond reach.

For most communities, in most states, benchmarking will not be the sole mechanism of accountability. Educators and students will be held responsible to externally-set standards, their performance judged by district, state, and

perhaps even federal tests. But the guidance and management of change that comes with benchmarking may prove the best means of reaching those standards, and improving performance on those tests. Through this alternative process of performance measurement, educational progress that may not show up on today's assessments can be documented—and its value defended.

Today and in the future, educators at all levels need to justify their professional judgments—to themselves, their superiors, and the public—on the basis of measurable goals and results they can stand by. Through benchmarking, sharply-defined objectives and relevant data can become both their defense and, ultimately, their beacon, lighting the way toward educational renewal.

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